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RESEARCH

Exame físico cardiorrespiratório: conhecimento de estudantes de enfermagem

Physical cardiorespiratory examination: knowledge of nursing students

Examen físico cardiorrespiratório: conocimiento de los estudiantes de enfermeira

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ABSTRACT

Objective: Detect the academic knowledge of the course of nursing on the physical examination cardiorespiratory. **Method:** this is a descriptive study, exploratory and quantitative sample 144 nursing students of João Pessoa, Paraíba. Applied a questionnaire aimed at setembro - outubro 2011, analyzed by descriptive statistics: frequency and percentage. **Results**: we identified the following gaps: location of cardiac auscultation 74 (51.4); parameters relating to the normorcadia and bradipnéia 112 (77.8); normal values for systolic blood pressure and diastolic blood pressure 133 (92.4); care in checking the 83 blood pressure (57.6); sounds and features of chest percussion 108 (75); difference in blood pressure in both upper limbs 88 (61.1). **Conclusion:** the physical examination cardiorespiratory if not configures, as reality of nursing students, there is disruption in the knowledge that influence the determinants of health of patients. **Descriptors:** Physical examination, Knowledge, Cardiovascular system, Respiratory system.

RESUMO

Objetivo: Detectar o conhecimento de acadêmicos do curso de enfermagem sobre o exame físico cardiorrespiratório. **Método:** Trata-se de um estudo descritivo, exploratório e quantitativo, amostra 144 estudantes de enfermagem de João Pessoa/Paraíba. Aplicou-se um questionário objetivo em setembro/outubro 2011, analisado pela estatística descritiva: frequência e percentual. **Resultados:** Identificaram-se as seguintes lacunas: localização da ausculta cardíaca 74(51,4%); parâmetros referentes à normorcadia e bradipnéia 112(77,8%); valores normais para pressão arterial sistólica e diastólica 133(92,4%); cuidados na verificação da pressão arterial 83(57,6%); sons e características da percussão torácica 108(75%); diferença da pressão arterial nos dois membros superiores 88(61,1%). **Conclusão:** O exame físico cardiorrespiratório não se configura como realidade dos estudantes de enfermagem, há ruptura no conhecimento que influenciam nos determinantes de saúde dos pacientes. **Descritores:** Exame físico, Conhecimento, Sistema cardiovascular, Sistema respiratório.

RESUMEN

Objetivo: Para detectar el conocimiento académico del curso de enfermería en el examen físico cardiorrespiratório. **Método:** este es un estudio descriptivo, estudiantes de enfermería muestra exploratoria y cuantitativa 144 de John PessoaParaíba. Aplicó un cuestionario dirigido a setembrooutubro 2011, analizado mediante estadística descriptiva: frecuencia y porcentaje. **Resultados:** se identificaron los siguientes espacios: ubicación de auscultación cardiaca 74 (51.4); parámetros relativos a la normorcadia y bradipnéia 112 (77,8); valores normales para la presión arterial sistólica y la presión arterial diastólica 133 (92.4); cuidado en la comprobación de la presión arterial 83 (57,6); sonidos y características de la percusión del tórax 108 (75); diferencia en la presión arterial en ambos miembros superiores 88 (61,1). **Conclusión:** el examen físico cardiorrespiratório si no configura como realidad de estudiantes de enfermería, hay interrupción en los conocimientos que influyen en los determinantes de la salud de los pacientes. **Descriptores**: Examen físico, Conocimiento, Sistema cardiovascular, Sistema respiratorio.

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INTRODUCTION

The nurse has responsibility to implement systematization of nursing care (SAE) to obtain success in caring for the patient. The SAE is the Organization of the nursing process (PE) which is the essence of nursing practice comprising five fundamental steps that supports and periodical better patient care, considering the holistic dimension be individualized, showing how anchor scientific knowledge. Study exploratory, descriptive, and cross-sectional quantitative approach, carried out in two faculties of João Pessoa-PB.

The quality of care in nursing has been the scene of numerous discussions and many of the conclusions reached is that the use of PE as a systematic way of caring can contribute significantly to improving the assistance.[1] in October 2009 the SAE was regulated by Brazilian law through the law of professional practice, law No. 7498/86 and resolution 358/2009 of the Federal Council of nursing.[2]

The EP consists of an instrument that serves and promotes the improvement of the intellectual capacity of nurses and provides a guide to adoption of a style of clinical trial[3], is structured around five inter-related and co-dependent steps with each other: history, diagnosis, prescription, implementation and evolution.[4]While the SAE comprises six phases: nursing history, physical examination, nursing diagnosis, nursing prescription, evolution of nursing and nursing report. Federal Council of Nursing. [2]

Physical examination consists of one of the stages of the SAE, representing an instrument of great value for assistance, since it allows the nurse diagnosis and nursing actions plan, monitor and evaluate the progress of the patient.[5]

Systematically the physical examination is the most important step of the process of nursing care, through a thorough evaluation seek to assess the signs and symptoms and define the nursing diagnosis, providing subsidies for a planning of assistance according to the needs and abnormalities found.[6]

The physical examination should be dynamic, integrated and carried out with particular needs is based on Humanized care, directed and oriented towards the patient, through techniques propaedeutic.

For a systematic assistance, it is necessary a theoretical-practical-methodological support, where the professional through his clinical knowledge devises a plan of care from the nursing diagnoses. This plan must be based on a drive shaft of knowledge, using knowledge of Anatomy, Physiology, pathophysiology, clinical pathology, psychology, nursing, propaedeutic and complementary exams, in order to establish coherent interventions with a diagnosis accordingly declared.[7]

The physical examination performed by the nurse in your health care practice aims to assess characteristics inherent in the human body, which subsidize the care offered.[8] thus becomes indispensable knowledge about the physical examination, since it is through this that determine the aftercare that will be offered to the individual patient. Despite the

general physical examination is essential, this work will give emphasis to the physical cardiorespiratory, because when these two systems harmed, are capable of killing the patient, or leave him with irreparable consequences.

The physical examination is a complex activity and heavy responsibility that requires the development of skills during the training of nurses.[9]

This research will make it possible to identify the profile and quality of knowledge of future nurses, allowing providing the same training and improvement in the practice of physical examinations, Furthermore, alert teachers to the school management in pursuit of excellence of its students.

The discrepancies between the recommended in the literature and reality practiced by students of nursing awakens the curiosity to see what actually happens to gaps in knowledge of the same found in physical examination, being this a decisive criterion in nursing interventions, this research aimed to detect the academic knowledge of the course of nursing on the physical examination cardiorespiratory.

METHOD

This is a survey of exploratory, descriptive, and transversal type with a quantitative approach in order to describe the object of research, its characteristics in relation to the studied phenomenon, and there is no interference of the researcher.

The scenario of the investigation involved two faculties, both with undergraduate program in nursing located in João Pessoa/PB, the reason for the choice of a public University and another to carry out private study was the possibility of highlighting the heterogeneity of knowledge of undergraduates who study at institutions with different precepts, seeking greater trust.

Understood the population of 165 study subjects nursing students that attended the fifth and sixth period, the others were active outside the College. After sample calculation in Statdisk version 11.1.0 USES with 3% and 95% confidence, obtained a sample of 144 subject. The data collected in the period of September and October of the year 2011.

Considering the objective of the present research was used as a criterion for inclusion: the volunteers should be nursing students, studying Semiotics and Semiology discipline I and II with an average equal to or higher than seven. Were excluded those who had not reached average seven in this discipline and have not signed an informed consent (TFCC).

The subject answered a questionnaire containing 13 questions objective contemplating content about physical examination cardiorespiratory. There was a time limit of 20 minutes to answer the questionnaire.

Data analyzed with the aid of *Software Statistical Package for the Social Sciences 19.0* andare presented as absolute frequency (FA) and relative frequency (FR).

The study was approved by the Research Ethics Committee of the Centro Universitário de João Pessoa – UNIPÊ, CEP/under 18/2011 registration. All survey respondents were asked to sign the informed consent according to Resolution 196/96 (then current) of the National Health Council.[10]

RESULTS E DISCUSSION

Study participants had an average age 23.6 and standard deviation 5.1 years, mostly women with 133 (92.4%) and 80 (55.6%) and college students (44.4%) of 64 public and private. The data collected through questionnaire objective are set out in Table 1 and 2.

Table 1- Percentage of hits and errors as for the knowledge of nursing students about physical examination cardiorespiratory. João Pessoa/PB, Brazil, 2011. (n = 144)

QUESTIONING	RIGHT ANSWER		WRONG ANSWER		
	FA	FR	FA	FR	TOTAL
What are the foci and the location of cardiac auscultation on physical examination?	70	48.6%	74	51.4%	100%
What is the classification of a person with a body mass index (BMI) equal to 30?	65	45.1%	79	54.9%	100%
What is the formula to calculate the BMI?	134	91.1%	10	6.9%	! 00%
What is the ideal waist circumference for men and women?	23	16%	121	84%	100%
On physical examination of diabetes, the nurse should pay attention to the risk factors and early signs of diabetic neuropathy, performing what?	8	5.6%	136	94.4%	100%
Which adventitious noises can found on physical examination?	90	62.5%	54	37.5%	100%
What are the sounds and their characteristics that may noted during chest percussion?	36	25%	108	75%	100%

Source: Data from the researcher, 2011. FA - absolute frequency. FR – relative frequency.

It is observed in table 1 that the difficulties prevalent in subjects studied were: location of cardiac auscultation 74 (51.4%) classify the IMC 79 (54.9%) abdominal circumference ideal for 121 men and women (84%) risk factors and early signs of diabetic neuropathy 136 (94.4%) sounds and their characteristics in chest percussion 108 (75 percent).

Table 2- Absolute and relative Frequency of hits and errors about physical cardiorespiratory, knowledge of nursing graduates. João Pessoa/PB, Brazil, 2011. (n = 144)

QUESTIONING	RIGHT ANSWER		WRONG ANSWER		
	FA	FR	FA	FR	TOTAL
What are the parameters for normocardia and bradypnea?	32	22.2%	112	77.8%	100%
What are the normal values for systolic and diastolic pressure?	11	7.6%	133	92.4%	100%
What are the two most commonly used arteries to assist in checking the blood pressure?	77	53.5%	67	46.5%	100%
The first and the second heart sound represent?	95	66%	49	34%	100%
What are the questions to ask the patient before checking the blood pressure?	61	42.4%	83	57.6%	100%
On the difference in blood pressure, check upper limbs (arms), when the individual should investigated?	56	38.9%	88	61.1%	100%

Source: Data from the researcher, 2011. FA - absolute frequency. FR – relative frequency.

Table 2 exposes gaps in knowledge of nursing scholars studied on: definition of the parameters relating to the normorcadia and bradypnea 112 (77.8%) identify the normal values for systolic blood pressure and diastolic blood pressure 133 (92.4%) to make inquiries before the verification of 83 blood pressure (57.6%) and the difference in blood pressure check parameters in the two upper limbs (61.1%) of 88.

The survey results reveal insufficient theoretical knowledge about physical examination cardiorespiratory. Among the techniques available to the physical examination of the cardiovascular system has the cardiac auscultation who obtained 74 (51.4%) of errors in the studied group. Many times due to its complexity that is associated to the many peculiarities of its proper use, represents a challenge for the student. However, we must consider that this technique is valuable in detecting cardiovascular diseases that affect more and more people, reaching the main cause of mortality in the world.[11]

How to check blood pressure (PA) it is necessary to prepare the patient about previous care that, interfere in this measure. Corroborating with the present study, in São Paulo (2004) 179 subjects were analyzed, being 25 nurses, doctors and 44 100 nursing assistants and showed that only one doctor and a nurse checked whether the patient had emptied his bladder, ingested food, alcoholic drink or smoked 30 minutes before the measurement of the PA.[12]

The blood pressure measurement is the procedure used for the diagnosis of hypertension, as well as for monitoring of hypertensive patients and evaluation of therapeutic efficacy. The method for checking it consists of a simple and easy procedure to performed, however for its execution must comply with criteria to minimize errors.[13]

Although easy applicability, study conducted in São Paulo (2002) demonstrated that the verification of the PA in the routine care of various health professionals is not performed correctly, potentially compromising the values obtained, diagnosis, treatment and control of hypertension.[14]

The group studied reached 121 (84%) of incorrect responses on the parameters ideal for abdominal circumference of men and women, found alarming because the anthropometric assessment including the BMI and waist circumference contributed to identify changes and evaluation for developing a cardiovascular disease.[15]

Study in Caxias do Sul/RS (2008) with 69 records identified that none of the nurses held records for percussion, but the inspection, palpation and auscultation always arise in nursing developments, however, as they should, because compared to patients ' need for a lower frequency of pulmonary and cardiac auscultation.[16]

In São Paulo (2005) found the teaching of physical examination in schools of nursing Undergraduate and detected insufficient knowledge about percussion (46.1 percent), auscultation (45.6%) and palpation (85.9 percent), on the part of teachers.[17]

The percussion system cardiorespiratory techniques need to dominate by nursing students in order to improve the quality of care provided to the patient, do represent findings that will influence the therapeutic conduct.

It considered the completion of nursing physical examination is essential for effective assistance and systematized, and should implemented in a careful manner by professional nurses, aiming at a scientific professional performance. The correct identification of the problems presented by patients, through a careful clinical evaluation, it becomes critical to the development of the actions of the nurse.[6]

In the State of Ceará in the period December 2004 to February 2005 with nurses of the family health program of the nursing consultation, the same stated that follow a methodology for the planning and implementation of nursing assistance, didn't mention concern at having to use a specific theoretical basis, when asked about the procedures performed during the query to hypertensive all responded perform only checking the blood pressure. [18]

A worrying number, representing 136 (94.4%) of the group, could not identify the risk factors and early signs of diabetic neuropathy, once the nurse must be able to identify potential risk factors for complications of DM. One of the complications of Diabetes Mellitus peripheral neuropathy stands out, this second Porth (2002) consists of the abnormal operation of peripheral nerves, being a frequent complication of Diabetes Mellitus, chronic, where one of the common signs of neuropathy is the loss of sensation in the lower limbs.[19]

The initial discovery of neuropathy can be obtained through research of painful, tactile sensitivities, and thermal. Important the role of the nurse by the health team therefore acts on orientation of diabetic patients about the daily care.[19] Furthermore, must guide the Glycemic level control, the use of medication and attend nursing consultations according to study conducted in São Paulo (2004) are precious in the prevention of complications in lower limbs.[21]It is observed that diabetic health education must be an integral part of the assistencial models, mainly in the area of nursing.

Whereas the assessment of the respiratory system as essential practice in implementing the physical examination, is worrying the total errors found in this article 112 (77.8 percent) for the normocardia and bradypnea parameters, because it is known that there is a high rate of morbidity and mortality associated with cardiac and respiratory tract diseases.[22]

In Brazil (2003), 14% of all hospitalizations are due system respiratory diseases, occupying second place in frequency cause absenteeism at school and at work, as well as exert tremendous pressure on health services.[23]

Although this study has pointed to the knowledge deficit nursing student, it is important to note that research conducted with nurses from the University Hospital Antônio Pedro/RJ (2014) revealed positive information about the nursing care to patients with compromised cardiovascular system.[24] However, cannot be taken as a basis for a qualified assistance, because the studies that seek to evaluate nursing actions, for the most part, didn't examine implementation of the physical examination.

CONCLUSION

This study based on detecting the knowledge of nursing students about physical examination cardiorespiratory. It noted that the study subjects present theoretical difficulties in its applicability.

Physical cardiorespiratory not configures as reality of nursing students. There are gaps in their knowledge, thereby, nursing assistance developed becomes unsatisfying and influence the determinants of health of patients.

It suggested that the programs responsible for the teaching and learning of colleges reviewed and updated as to the level of knowledge of their students and the effectiveness of the didactic method used.

Essential to realize that the knowledge acquired during higher education reflected in the performance of professional practice, therefore, it is necessary to note that the undergraduates receive a range of information about physical examination at the beginning of the course, favoring the oblivion. We must reinforce the importance of physical examination for nursing developed with different teaching strategies throughout the academic training.

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